

CLAIM AMENDMENTS

1. (Currently Amended) A structure including a carbon body comprising:
a substrate; and
~~a single-phase~~ body consisting essentially of carbon and disposed on the substrate
~~and, the body consisting essentially of carbon~~ having a plurality of continuously
connected intersecting walls transverse to the substrate.

Claims 2-8 (Cancelled).

9. (Previously Presented) A process for producing a structure including a body of carbon, the process including:
generating a plasma in a mixture of gases containing a gaseous carbon compound and hydrogen in a concentration range from 25% to 75%; and
applying a magnetic field and microwaves to the plasma to establish a resonance condition for electrons in the plasma, wherein the magnetic field and the microwaves advance in a direction parallel to the magnetic field, crossing a surface of a substrate, producing a reaction in the gaseous carbon compound and forming a body of carbon on the surface of the substrate, the body of carbon having a plurality of continuously connected intersecting walls transverse to the surface of the substrate.

Claims 10-12 (Cancelled).

13. (Previously Presented) The process for producing the body of carbon according to claim 9, wherein the substrate is a glass substrate.

14. (Previously Presented) The process for producing the body of carbon according to claim 9, wherein the substrate is heated to no more than 700°C.

15. (Currently Amended) An electric field emission electron source including:
a substrate; and
~~a single-phase~~ body consisting essentially of carbon and disposed on the substrate as an electron emitting member for emitting electrons, ~~the single-phase~~ body consisting essentially of carbon ~~comprising~~ having a plurality of continuously connected intersecting walls transverse to the substrate.

16. (Currently Amended) The electric field emission electron source according to claim 15, wherein the continuously connected intersecting walls define perimeters of openings that are located between locations where intersections of the continuously connected intersecting walls intersect.

17. (Currently Amended) The electric field emission electron source according to claim 15, including a cathode electrode for supplying electrons to the body consisting essentially of carbon, and an extraction electrode for generating an electric field for inducing emission of electrons from the body consisting essentially of carbon, wherein the body consisting essentially of carbon is positioned opposite the cathode electrode, contacting the cathode electrode, and the extraction electrode is positioned ~~opposite~~ surrounding the body consisting essentially of carbon without overlapping the body consisting essentially of carbon, when viewed in a direction transverse to the substrate.

18. (Currently Amended) The electric field emission electron source according to claim 15, including

a cathode electrode for supplying electrons to the body consisting essentially of carbon, and

a backside extraction electrode, positioned at a rear side of the body of carbon, for generating, from the rear side of the body consisting essentially of carbon, an electric field for inducing emission of electrons from a front side of the body consisting essentially of carbon, the front side of the body consisting essentially of carbon being opposite the rear side of the body consisting essentially of carbon, wherein

the cathode electrode is positioned opposite the backside extraction electrode, and

the body consisting essentially of carbon is positioned opposite the cathode electrode, contacting the cathode electrode.

19. (Currently Amended) The electric field emission electron source according to claim 18, wherein the cathode electrode is located only at a periphery of the body consisting essentially of carbon.

20. (Currently Amended) The electric field emission electron source according to claim 18, wherein the cathode electrode is positioned outside the backside extraction

electrode and not overlapping ~~with~~ the backside extraction electrode, when viewed in a direction perpendicular to the substrate.

21. (New) The structure according to claim 1, wherein the continuously connected intersecting walls define perimeters of openings that are located between intersections of the continuously connected intersecting walls.

22. (New) The structure according to claim 21 including a continuous film in the openings at the substrate.

23. (New) The structure according to claim 1, wherein the body consisting essentially of carbon includes a hexagonal crystalline phase.

24. (New) The structure according to claim 1, wherein the walls have an average thickness on the substrate not exceeding 100 nm.

25. (New) The structure according to claim 1, wherein the walls are continuously connected electrically.

26. (New) The structure according to claim 1, wherein the substrate is glass.

27. (New) The structure according to claim 21, wherein the openings are aligned along a common direction.

28. (New) The structure according to claim 27, wherein the direction is transverse to the substrate.